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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Y. NAGAI et al.  
Serial No.: 09/290,251  
Filed: April 13, 1999  
For: REPRODUCTION APPARATUS AND REPRODUCTION  
METHOD OF DIGITAL VIDEO SIGNAL OR AUDIO  
SIGNAL  
Art Unit: 2165  
Examiner: N. Rosen

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APPEAL BRIEF

Box AF  
Assistant Commissioner for Patents  
Washington, D.C. 20231

April 29, 2002

Sir:

In connection with the above-identified application and further to the Notice of Appeal of February 28, 2002, and in conjunction with the accompanying amendment after final rejection and Information Disclosure Statement, this Appeal Brief is being submitted in triplicate in response to the final Office Action of October 31, 2001, which replaced the incomplete final Office Action of October 11, 2001, and restarted the period for response.

Submitted herewith is a credit card payment form in payment of the fee of \$320.00 required for filing this Appeal Brief.

(1) REAL PARTY IN INTEREST

The real party in interest is Hitachi, Ltd., a Japanese corporation, the assignee of the present application. An assignment assigning all rights in connection with the present application from the inventors to Hitachi, Ltd., was recorded in the U.S. Patent Trademark Office on April 13, 1999, on reel 9899, frame 545.

(2) RELATED APPEALS AND INTERFERENCES

Upon information and belief, there are no other appeals or interferences which will directly affect or be directly affected by or have a bearing on the Board's decision in the present appeal.

(3) STATUS OF CLAIMS

No claims have been cancelled. Claims 1-16 and 24-38 are pending, with claims 1-8 and 10-16 being independent. No claims have been allowed. Claims 1-16 and 24-38 have been rejected and are on appeal, and claims 1-16 and 24-38 as amended by the accompanying amendment after final rejection appear in the Appendix attached hereto.

Claims 24-38 were originally numbered 17-31 when they were added in the supplemental amendment of October 9, 2001, but claims 17-31 have been renumbered as claims 24-38 as indicated by the Examiner on page 2 of the Office Action of October 31, 2001, where the Examiner states as follows:

The numbering of claims is not in accordance with 37 CFR 1.126 which

requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 17-31 have been renumbered as claims 24-38, respectively.

Thus, according to the Examiner, claims 17-23 had already been presented in the application when the supplemental amendment of October 9, 2001, adding new claims 17-31 was filed. However, the application was filed with original claims 1-16, and no new claims were added to the application before claims 17-31 were added in the supplemental amendment of October 9, 2001. Accordingly, it is submitted that no such claims 17-23 had been presented in the application before the supplemental amendment of October 9, 2001, was filed as alleged by the Examiner, such that it was not necessary to renumber claims 17-31 as claims 24-38 as has been done.

However, since claims 17-31 have been renumbered as claims 24-38 and since the final Office Action of October 31, 2001, refers to claims 24-38, in order to avoid confusion, claims 17-31 have been explicitly renumbered as claims 24-38 in the accompanying amendment after final rejection to avoid confusion, and the present Appeal Brief refers to claims 24-38.

#### (4) STATUS OF AMENDMENTS

Submitted herewith is an amendment after final rejection amending claims 1-16 and 24-38 solely to place them in better form for consideration on appeal. It is submitted that entry of this amendment under 37 CFR 1.116(b) is proper, and it is expected that the amendment will be entered. Accordingly, claims 1-16 and 24-38 in the attached appendix are claims 1-16 and 24-38 as amended by the accompanying amendment.

No other amendments were submitted after the final Office Action of October 31, 2001.

The appellants' representatives conducted a personal interview with the Examiner and his SPE on February 12, 2002, and conducted a telephone interview with the Examiner on February 13, 2002, during which the Examiner provided additional explanations of the rejections set forth in the final Office Action of October 31, 2001.

#### (5) SUMMARY OF INVENTION

The present invention is directed to a method and an apparatus for preventing reproduction of a pirated audio or video signal for which copying once was permitted, and which was legally copied once onto, for example, a DVD-R disk or a DVD-RAM disk which are recordable mediums, but then was further illegally copied from the DVD-R or DVD-RAM disk onto a DVD-ROM disk which is not a recordable medium, but is a medium dedicated to reproduction. See, for example, page 2, lines 7-16, of the specification.

It is not possible for a signal for which copying once was permitted to exist in a DVD-ROM disk because the signal could not have been recorded directly onto the DVD-ROM disk because the DVD-ROM disk is not a recordable medium, but is a medium dedicated to reproduction. See, for example, page 2, line 21, through page 3, line 4, of the specification.

As is well known in the art, a DVD-ROM disk which is a medium dedicated to reproduction cannot be created by recording a signal directly, but is produced by pressing the DVD-ROM disk from a master created by a process which begins with recording a signal.

Thus, a medium which is dedicated to reproduction and has recorded thereon a signal for which copying once was permitted is an illegal copy.

Thus, by detecting that a signal recorded on a medium is a signal for which copying once was permitted and that the medium is a medium dedicated to reproduction, it is possible to detect that the medium contains an illegal copy, and to stop reproduction of the illegal copy. See, for example, page 3, lines 4-17, of the specification.

Figs. 1-4 which are described on page 4, line 4, through page 15, line 10, of the specification describe various embodiments of the invention which include various ways of detecting whether a medium is a medium dedicated to reproduction.

#### (6) ISSUES

Issue 1: Whether claims 1, 4, 6, 8-11, 14, 16, 24, 27, 29, 31-33, 36, and 38 are properly rejected under 35 USC 103(a) as being unpatentable over Linnartz (U.S. Patent No. 6,209,092) in view of Doi (U.S. Patent No. 5,901,125).

Issue 2: Whether claims 2-3, 5, 7, 15, 25-26, 28, 30, and 37 are properly rejected under 35 USC 103(a) as being unpatentable over Linnartz in view of Doi, Tozaki et al. (Tozaki) (U.S. Patent No. 5,729,516), Mardirossian (U.S. Patent No. 5,636,096) and Park '826 (U.S. Patent No. 5,796,826), with the Examiner improperly relying on Park '826 to support the rejection without including Park '826 in the statement of the rejection as required by the decision of In re Hoch, 428 F.2d 1341, 1342 n.3, 166 USPQ 406, 407 n.3 (CCPA 1970).

Issue 3: Whether claims 12-13 and 34-35 are properly rejected under 35 USC 103(a) as being unpatentable over Linnartz in view of Yokota et al. (Yokota) (U.S. Patent No. 5,633,841) and Fox (the abstract of the article entitled "Wobble drives pirates off the digital seas", New Scientist, February 22, 1997, p. 22).

#### (7) GROUPING OF CLAIMS

The claims on appeal do not stand or fall together. Each of claims 1-16 and 24-38 is considered to be separately patentable, and arguments to that effect are presented below in the section ARGUMENT.

(8) ARGUMENT

ISSUE 1

Claims 1, 4, 6, 8-11, 14, 16, 24, 27, 29, 31-33, 36, and 38 were rejected under 35 USC 103(a) as being unpatentable over Linnartz in view of Doi.

Claim 1

Independent claim 1 recites a reproduction apparatus for reproducing video data and/or audio data from a medium dedicated to reproduction or a recordable medium having video data and/or audio data recorded thereon, said video data and/or audio data being generated by superimposing information concerning copying permission on a signal of digitized video data and/or a signal of digitized audio data or embedding the information therein, said reproduction apparatus comprising a reproducing unit which reproduces the information concerning copying permission superimposed on or embedded in the video data and/or audio data, a determining unit which determines whether the medium to be reproduced is a medium dedicated to reproduction or a recordable medium, and a stopping unit which stops reproduction in response to the information reproduced by said reproducing unit indicating that copying once was permitted and a result of the determining by said determining unit indicating that the medium is a medium dedicated to reproduction.

In explaining the rejection of claim 1, the Examiner states as follows on pages 2-3 and 34-35 of the final Office

Action of October 31, 2001 (emphasis by underlining added by the Examiner):

Linnartz discloses a reproduction apparatus for reproducing video data and/or audio data from a medium dedicated to reproduction and/or a recordable medium having video data and/or audio data recorded thereon, said video data and/or audio data being generated by superimposing information concerning copying permission on a signal of digitized video data and/or a signal of audio data or embedding the information therein (Abstract; see also column 2, line 26, through column 3, line 67), said reproduction apparatus comprising: a reproducing unit which reproduces the information concerning copying permission superimposed on or embedded in the video data and/or audio data (Abstract; column 5, lines 41-54); and a stopping unit which stops reproduction in response to the information reproduced by the reproducing unit indicating that copying once was permitted (column 3, lines 17-67; column 4, line 58, through column 5, line 2; column 6, lines 22-45). Linnartz discloses a determining unit which determines whether the medium to be reproduced is a recordable medium (column 5, lines 54-66; column 7, lines 4-13), but does not clearly and expressly disclose determining whether the medium to be reproduced is dedicated to reproduction or to recording; however, Doi teaches determining whether a medium is dedicated to reproduction or recording (column 13, lines 46-55). Hence, it would have been obvious to one of ordinary skill in the art of copy protection at the time of applicant's invention to include in the apparatus disclosed by Linnartz a determining unit which determines whether a medium to be reproduced is a medium dedicated to reproduction or a recordable medium, according to Doi, and to stop reproduction in response to a result indicating that the medium is a medium dedicated to reproduction, for the obvious advantage of limiting the reproduction of proprietary information.



. . . . .

Applicant next analyzes the teachings of Linnartz and of Doi, and argues that there is no suggestion in either, or in the knowledge generally available to one of ordinary skill in the art, to combine Linnartz and Doi to provide an apparatus which stops reproduction in response to a result indicating that a medium is a medium dedicated to reproduction. In response to Applicant's argument that there is no suggestion to combine the references, Examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Linnartz is considered to provide the motivation, since the goal of Linnartz's invention is to prevent or limit unauthorized or excessive copying, and Linnartz expressly discloses (as prior art!) that it is known to use copy bits to indicate that a medium is a "professional" medium, and not a "recordable" disc (column 1, lines 45-65). Examiner holds this to be a clear statement of motivation to be found in the principal reference itself, and in the knowledge generally available to one of ordinary skill in the art, as admitted background of the primary reference.

As regards Applicant's argument that Linnartz and Doi do not disclose or suggest a stopping unit which stops reproduction in response to the information reproduced by a reproducing unit indicating that copying once was permitted and a result of the determining by the determining unit indicating that the medium is a medium dedicated to reproduction. Examiner admits that Linnartz and Doi do not expressly disclose a stopping unit which stops reproduction in response to both these kinds of

information. However, Linnartz does disclose a stopping unit which stops reproduction in response to information reproduced by a reproducing unit indicating that copying once was permitted (column 3, lines 17-67; column 4, line 58, through column 5, line 2; column 6, lines 22-45), and, as noted, Linnartz discloses, in the context of copy protection, copy bits indicating whether a medium is a medium dedicated to reproduction (column 1, lines 45-65). It is difficult to conceive of the purpose of these copy bits, if copying would not be stopped in response to a determination of copy bits showing a medium to be a medium not intended as recordable.

The appellants submit that the embodiment of Linnartz which appears to be the most relevant to claim 1 is the apparatus in Fig. 4 of Linnartz which uses a watermark W, a control ticket or control pattern T, and a medium mark P. The medium mark P is described, for example, in column 5, lines 54-63, of Linnartz which reads as follows (emphasis added):

An optional third type of copy-control mark, a record carrier pattern representing a recording medium mark identifying the medium (disc/tape/etc), may be applied separately or may also be related to the same watermark. A recording medium mark can be represented for instance by a wobble groove or a pit jitter modulation, and it preferably also is visually detectable. Recordable media may carry a fixed predetermined medium mark identifying the medium as recordable, or as a professional disc from a known source.

Thus, assuming arguendo that Linnartz may be considered to disclose determining whether the medium to be reproduced is a recordable medium as alleged by the Examiner, it is not seen where Linnartz discloses using the result of such a determination for any particular purpose. That is, it is not

seen where Linnartz discloses taking any particular action when it is determined that a medium to be reproduced is a recordable medium.

The Examiner apparently considers Linnartz to disclose a stopping unit which stops reproduction in response to the information reproduced by the reproducing unit indicating that copying once was permitted based primarily on column 3, lines 27-40, of Linnartz which reads as follows:

In an embodiment of the system according to our invention the above control pattern has the function of a copy permission mark, which is distributed along with the signal reproduced from an original recording. The recorder of that embodiment does verify the watermark in the signal against the copy permission mark. If both marks correspond, the content is recorded on a recordable record carrier and thus a first generation copy is made, but the permission mark itself is not recorded on the copy. So if the signal of the copy is reproduced, it no longer comprises the copy permission mark. The recorder will not make another recording from the signal from the first generation copy. Hence one and only one generation of copies can be made.

and column 4, line 58, through column 5, line 2, of Linnartz which reads as follows:

An embodiment of the invention is a system for copy protection allowing one generation of copies, also called copy-once. A professional audio stream contains embedded copy-right data that grants permission to copy once. This is implemented by embedding a watermark  $y_{co}$  in the audio stream. Moreover the professional disc contains a special permission mark  $x_{co}$  where  $y_{co}=H(x_{co})$  with  $H()$  a cryptographic one-way function. The mark  $y_{co}$  remains with the audio (possibly embedded) during playback, but it is removed by the consumer recorder. A copy

made by the recorder therefore does not contain the permission mark and cannot be copied.

These portions of Linnartz relate to the apparatus in Fig. 4 of Linnartz.

The apparatus in Fig. 4 of Linnartz determines that optical disc 41 to be reproduced is a no-copy original disc when two conditions are met--when comparator 423 determines that  $W = F(P)$  and when comparator 426 determines that  $W = F(T)$ . When these two conditions are met, reproduction of optical disc 41 is permitted. See column 8, line 59, through column 9, line 28, of Linnartz.

Also, the apparatus in Fig. 4 of Linnartz determines that optical disc 41 to be reproduced is a copy-once allowed disc when two conditions are met--when comparator 424 determines that  $T = F(P)$  and when comparator 429 determines that  $W = F(F(F(T)))$ . When these two conditions are met, reproduction of optical disc 41 is permitted. See column 8, line 59, through column 9, line 28, of Linnartz. The situation when comparator 429 determines that  $W = F(F(F(T)))$  appears to correspond most closely to the feature of claim 1 wherein the information concerning copying permission reproduced by said reproducing unit indicates that copying once was permitted.

The apparatus in Fig. 4 of Linnartz may also determine that optical disc 41 is a legal first generation copy when comparator 426 determines that  $W = F(T)$ , in which case the medium mark P may be absent or have a predetermined value. See column 9, lines 10-16, of Linnartz. Presumably, when this

condition is met, reproduction of optical disc 41 is permitted, although this is not entirely clear from Linnartz.

The Examiner considers Doi to disclose determining whether a medium is dedicated to reproduction or recording based on column 13, lines 46-55, of Doi which reads as follows:

At this time, when the optical disk 1 is a CD, CD-ROM or DVD-ROM, the reflectance thereof is 90 to 100% and the amplitude changes in wide range, when the optical disk 1 is a DVD-R or CD-R, the reflectance thereof is 70% and the amplitude changes in a range narrower than in the case of CD, CD-ROM or DVD-ROM, and when the optical disk 1 is a DVD-RAM, the reflectance thereof is 30% and the amplitude changes in a range narrower than in the case of DVD-R or CD-R, and therefore, they can be distinguished from one another.

Since a CD, a CD-ROM, and a DVD-ROM are each a medium dedicated to reproduction, this passage of Doi may arguably be considered to disclose determining whether a medium is dedicated to reproduction. However, it is submitted that nothing whatsoever in Doi discloses or suggests stopping reproduction in response to a result indicating that the medium is a medium dedicated to reproduction as alleged by the Examiner.

Rather, according to column 13, lines 22-45, and column 13, line 56, through column 14, line 4, of Doi, the apparatus in Fig. 1 of Doi attempts to reproduce a loaded optical disk 1 using light having a power of 0.3 mW and a wavelength of 780 nm emitted from semiconductor laser oscillator 19 in response to a determination by CPU 30 that an amplitude of reflection

light from the innermost circumference of loaded optical disk 1 is suitable for a CD, a CD-ROM, and a DVD-ROM, or, to use the Examiner's language, in response to a result indicating that the medium is a medium dedicated to reproduction. As described in column 14, lines 5-13, of Doi, if the reproducing attempt is not successful, the apparatus in Fig. 1 of Doi then reproduces the loaded optical disk 1 using light having a power of 0.5 mW and a wavelength of 650 nm emitted from semiconductor laser oscillator 19.

Accordingly, it is submitted that if one of ordinary skill in the art were to combine Linnartz and Doi based on their teachings discussed above, the resulting apparatus would attempt to reproduce a medium using light having a power of 0.3 mW and a wavelength of 780 nm emitted from a semiconductor laser oscillator in response to a result indicating that the medium is a medium dedicated to reproduction, rather than stopping reproduction in response to a result indicating that a medium is a medium dedicated to reproduction as alleged by the Examiner.

Reference is made to MPEP 2143, Eighth Edition, August 2001, p. 2100-122, which provides as follows (emphasis added):

**2143 Basic Requirements of a *Prima Facie* Case of Obviousness**

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success.

Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Here, it is submitted that there is no suggestion whatsoever in Linnartz and Doi themselves or in the knowledge generally available to one of ordinary skill in the art for one of ordinary skill in the art to combine Linnartz and Doi to provide an apparatus which stops reproduction in response to a result indicating that a medium is a medium dedicated to reproduction as alleged by the Examiner. Rather, it is submitted that the only suggestion that this be done is contained in the appellants' disclosure, which the Examiner is prohibited from relying on in a rejection under 35 USC 103(a) as pointed out in MPEP 2143 referred to above.

Accordingly, it is submitted that the rejection of claim 1 under 35 USC 103(a) as being unpatentable over Linnartz in view of Doi is based solely on a hindsight reconstruction of the present invention arrived at by reading the appellants' disclosure, such that the Examiner has not established a prima facie case of obviousness under 35 USC 103(a) with respect to claim 1.

The above arguments were also presented in the request for reconsideration of August 22, 2001. In response to these arguments, the Examiner states as follows on pages 34-35 of

the final Office Action of October 31, 2001 (emphasis by underlining added by the Examiner):

Applicant next analyzes the teachings of Linnartz and of Doi, and argues that there is no suggestion in either, or in the knowledge generally available to one of ordinary skill in the art, to combine Linnartz and Doi to provide an apparatus which stops reproduction in response to a result indicating that a medium is a medium dedicated to reproduction. In response to Applicant's argument that there is no suggestion to combine the references, Examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Linnartz is considered to provide the motivation, since the goal of Linnartz's invention is to prevent or limit unauthorized or excessive copying, and Linnartz expressly discloses (as prior art!) that it is known to use copy bits to indicate that a medium is a "professional" medium, and not a "recordable" disc (column 1, lines 45-65). Examiner holds this to be a clear statement of motivation to be found in the principal reference itself, and in the knowledge generally available to one of ordinary skill in the art, as admitted background of the primary reference.

As regards Applicant's argument that Linnartz and Doi do not disclose or suggest a stopping unit which stops reproduction in response to the information reproduced by a reproducing unit indicating that copying once was permitted and a result of the determining by the determining unit indicating that the medium is a medium dedicated to reproduction. Examiner admits that Linnartz and Doi do not expressly disclose



a stopping unit which stops reproduction in response to both these kinds of information. However, Linnartz does disclose a stopping unit which stops reproduction in response to information reproduced by a reproducing unit indicating that copying once was permitted (column 3, lines 17-67; column 4, line 58, through column 5, line 2; column 6, lines 22-45), and, as noted, Linnartz discloses, in the context of copy protection, copy bits indicating whether a medium is a medium dedicated to reproduction (column 1, lines 45-65). It is difficult to conceive of the purpose of these copy bits, if copying would not be stopped in response to a determination of copy bits showing a medium to be a medium not intended as recordable.

During the telephone interview of February 13, 2002, the Examiner explained that it is his position that the following statement in column 1, lines 63-65, of Linnartz implies stopping reproduction in response to a determination that a medium is a medium dedicated to reproduction as recited in claim 1:

Other copy bits may indicate that the medium containing the information is a "professional" medium manufactured by pressing and is not a "recordable" disc.

The Examiner explained that based on this alleged implied teaching of Linnartz, one of ordinary skill in the art would have been motivated to modify Linnartz's apparatus to determine whether to stop reproduction based in part on a determination that a medium is a medium dedicated to reproduction as taught by Doi, thereby providing all of the features of claim 1, despite the fact the Doi uses a result of such a determination to control a power and a wavelength of a

laser used for reproduction, rather than to determine whether to stop reproduction as recited in claim 1.

However, for the reasons discussed below, it is submitted that column 1, lines 63-65, of Linnartz does not imply stopping reproduction in response to a determination that a medium is a medium dedicated to reproduction as recited in claim 1, and that the modified combination of Linnartz and Doi proposed by the Examiner is a classic case of hindsight reconstruction of the present invention arrived at by reading the appellants' disclosure, which the Examiner is prohibited from relying on in a rejection under 35 USC 103(a) as pointed out in MPEP 2143 referred to above.

Column 1, lines 45-65 (actually lines 44-65), of Linnartz referred to by the Examiner in the above paragraphs reads as follows (emphasis added):

Copy protection has a long history in audio publishing. The presently installed base of equipment, including PC's with audio cards, provide little protection against unauthorized copying. In any copy-protection scheme, the most difficult issue is that a pirate can always attempt upon playback of an original disc, to treat the content as if it were an analog home recording and record it. It is desirable that consumer recorders be able to copy recordings of the consumer's own creative productions without any limitation, but prohibit the recording of copy-right material. Thus, the copy protection mechanism must be able to distinguish between consumers' own creations and content that originates from professional music publishers. The equipment must make this distinction based on the audio or video signal only, as any reference to the physical source of content (e.g. disc or microphone) is unreliable. For digital storage media

such as DCC, "copy bits" have been defined, which bits indicate a copyright status, e.g. "no copy allowed", "free copy" or "one generation of copy allowed". Other copy bits may indicate that the medium containing the information is a "professional" medium manufactured by pressing and is not a "recordable" disc.

The copy protection scheme for digital storage media such as DCC (digital compact cassette) which uses copy bits referred to in this passage of Linnartz is the Serial Copy Management System (SCMS) referred to in 17 USC 1002(a) which provides as follows (emphasis by underlining added):

**§ 1002 Incorporation of copying controls**

(a) *Prohibition on importation, manufacture, and distribution.*—No person shall import, manufacture, or distribute any digital audio recording device or digital audio interface device that does not conform to—

(1) the Serial Copy Management System;

(2) a system that has the same functional characteristics as the Serial Copy Management System and requires that copy and generation status information be accurately sent, received, and acted upon between devices using the system's method of serial copying regulation and devices using the Serial Copying Management System; or

(3) any other system certified by the Secretary of Commerce as prohibiting unauthorized serial copying.

The Serial Copy Management System is described in International Standard IEC 60958-3, Digital audio interface — Part 3: Consumer applications, First edition, December 1999, International Electrotechnical Commission, Geneva, Switzerland

(hereinafter IEC 60958-3). IEC 60958-3 is cited in the accompanying Information Disclosure Statement, and a copy of IEC 60958-3 is attached to the accompanying Information Disclosure Statement.

IEC 60958-3 is a bilingual publication in both French and English, with the French version appearing on the even-numbered pages 2, 4, 6, . . . 88 and the English version appearing on the odd-numbered pages 3, 5, 7, . . . 89. Attached hereto are the cover page and pages 17, 21, 23, 25, and 55 of IEC 60985-3.

The Serial Copy Management System (SCMS) copy information referred to in 17 USC 1002(a) is bit 2 (in byte 0) which is described as follows on page 17 of IEC 60958-3:

Byte 0: General control and mode  
information

Control:

. . . .

Bit 2 "0" Software for which  
copyright is asserted.

"1" Software for which no  
copyright is asserted.

NOTE Bit 2 is referred to as the  
"Cp-bit". It should be indicated whether  
copyright protection has been asserted.

The copyright status may be unknown for  
certain applications. The above  
interpretation is therefore not valid in  
combination with some category codes (see  
annexes). The Cp-bit can alternate  
between 0 and 1 at a rate between 4 Hz and  
10 Hz (see annex A).

The Serial Copy Management System (SCMS) generation  
status information referred to in 17 USC 1002(a) is bit 15 (in

byte 1 which is a category code as described on page 21 of IEC 60958-3) which is described as follows on pages 23 and 25 of IEC 60958-3:

#### **4.3 Copyright management guidelines for consumer application of the digital audio interface**

##### **4.3.1 General**

Category codes are defined for all consumer products that are capable of supplying a digital signal to consumer digital audio recorders, except for products that are fully transparent from input to output.

. . . .

Bit 15 is referred to as the "L-bit". It shall indicate the "generation status" of the digital audio signal.

"Generation status" means:

- whether the signal emanates from a source that has been produced or authorized by the rights owner of the material, such as commercially released pre-recorded compact discs or DAT tapes or a digital broadcast (referred to herein as "original") and for which copyright has been asserted;
- or whether the signal emanates from a recording made from such "original" material (referred to herein as "a home-copy of generation 1 or higher").

Generally, the L-bit is specified as:

Bit 15	"0"	No indication.
	"1"	Commercially released pre-recorded software.

For historical reasons, the reverse situation is valid for the signals originating from:

laser optical products (category code

"100 XXXXL");

broadcast reception (category codes  
"001 XXXXL" and "011 1XXXL").

For these category codes the L-bit shall  
indicate:

Bit 15 "0" Commercially released  
pre-recorded software.

"1" No indication.

The generation status may be unknown for  
some applications. The above  
interpretation is therefore not valid in  
combination with some category codes such  
as:

- general (category code "000 00000");
- analogue/digital converters for  
analogue signals without copyright  
information (category code  
"011 00XXL").

Table C.1 on page 55 of IEC 60958-3 describes how the  
Cp-bit (bit 2), the L-bit (bit 15), and the category code  
(byte 1) are used in a digital audio tape recorder (DAT).

As shown in Table C.1, when the Cp-bit/L-bit combination  
in an input signal to the DAT recorder is "10" or "11", the  
DAT recorder is permitted to record the input signal as many  
times as desired, which corresponds to the "free copy"  
copyright status referred to in column 1, lines 44-65, of  
Linnartz referred to by the Examiner.

When the Cp-bit/L-bit combination in the input signal to  
the DAT recorder is "00", the DAT recorder is not permitted to  
record the input signal, which corresponds to the "no copy  
allowed" copyright status referred to in column 1, lines  
44-65, of Linnartz referred to by the Examiner.

When the Cp-bit/L-bit combination in the input signal to the DAT recorder is "01", the DAT recorder is permitted to record the input signal while changing Cp-bit/L-bit to "00" in the recorded signal, thereby preventing further copying of the recorded signal, which corresponds to the "one generation of copy allowed" copyright status referred to in column 1, lines 44-65, of Linnartz referred to by the Examiner.

The situations when the Cp-bit/L-bit combination in an input signal to a DAT recorder is "00", "01", "10", and "11" described in IEC 60958-3 and discussed above are also described in column 1, line 37, through column 2, line 22, of U.S. Patent No. 5,729,516 to Tozaki et al. (Tozaki) relied on by the Examiner as a secondary reference in the rejection of claims 2-3, 5, 7, 15, 25-26, 28, 30, and 37 under 35 USC 103(a) set forth in the final Office Action of October 31, 2001.

The Examiner also relied on Tozaki as the primary reference in the rejections of claims 1-16 set forth in the final Office Action of January 19, 2001. However, as pointed out by the appellants' representatives during the personal interview conducted on April 25, 2001 (see the interview summary for the personal interview of April 25, 2001), and as admitted by the Examiner in the interview summary for the telephone interview conducted on May 11, 2001, Tozaki does not disclose determining that copying once was permitted as recited in claim 1 because Tozaki's apparatus changes the

Cp-bit/L-bit combination of "01" indicating that copying once is permitted to "00" indicating that copying is not permitted.

In any event, it is submitted that the Cp-bit/L-bit combination described in IEC 60958-3 and discussed above is the "copy bits" referred to in column 1, lines 44-65, of Linnartz referred to by the Examiner which indicate a copyright status.

Furthermore, it is submitted that it is readily apparent from the above discussion and from column 1, lines 44-65, of Linnartz that the L-bit described in IEC 60958-3 and discussed above is the "other copy bits" referred to in column 1, lines 44-65, of Linnartz referred to by the Examiner which indicate that the medium containing the information is a "professional" medium manufactured by pressing and is not a "recordable" disc.

Furthermore, it is submitted that the Serial Copy Management System (SCMS) referred to in column 1, lines 44-65, of Linnartz relied on by the Examiner and described in IEC 60958-3 as discussed above is concerned solely with stopping copying by a recording apparatus of a signal which is not permitted to be copied, rather than stopping reproduction by a reproduction apparatus of a copied signal for which copying once was permitted and which is recorded on a medium dedicated to reproduction as recited in claim 1.

For example, as described in Table C.1 on page 55 of IEC 60958-3 discussed above, the Cp-bit/L-bit combination (the "copy bits" referred to column 1, lines 44-65, of Linnartz



referred to by the Examiner) is read from an input signal to the DAT recorder. Assuming arguendo that the input signal is being reproduced from a medium by a reproduction apparatus and the DAT recorder determines that the input signal is not permitted to be copied, it is submitted that the DAT recorder does not have the capability to stop reproduction of the input signal by the reproduction apparatus, but only has the capability to prevent recording of the input signal by the DAT recorder, regardless of whether the L-bit indicates that the medium is a "professional" medium manufactured by pressing and is not a "recordable" disc as described in column 1, lines 44-65, of Linnartz referred to by the Examiner, i.e. is a medium dedicated to reproduction as recited in claim 1.

In light of the above discussion, it is submitted that there is absolutely no basis whatsoever in Linnartz and Doi or in the knowledge generally available to one of ordinary skill in the art for the Examiner's position that the following statement in column 1, lines 63-65, of Linnartz implies stopping reproduction in response to a determination that a medium is a medium dedicated to reproduction as recited in claim 1:

Other copy bits may indicate that the medium containing the information is a "professional" medium manufactured by pressing and is not a "recordable" disc.

or for the Examiner's subsequent conclusion that, based on this alleged implied teaching of Linnartz, one of ordinary skill in the art would have been motivated to modify Linnartz's apparatus to determine whether to stop reproduction

based in part on a determination that a medium is a medium dedicated to reproduction as taught by Doi, thereby providing all of the features of claim 1, despite the fact the Doi uses a result of such a determination to control a power and a wavelength of a laser used for reproduction, rather than to determine whether to stop reproduction as recited in claim 1.

Since the motivation identified by the Examiner for one of ordinary skill in the art to modify the combination of Linnartz and Doi in the manner proposed by the Examiner to provide a determining unit which determines whether the medium to be reproduced is a medium dedicated to reproduction or a recordable medium, and a stopping unit which stops reproduction in response to the information reproduced by said reproducing unit indicating that copying once was permitted and a result of the determining by said determining unit indicating that the medium is a medium dedicated to reproduction as recited in claim 1 is based solely on the Examiner's position that the statement in column 1, lines 63-65, of Linnartz implies stopping reproduction in response to a determination that a medium is a medium dedicated to reproduction as recited in claim 1, and since there is absolutely no basis whatsoever in Linnartz and Doi or in the knowledge generally available to one of ordinary skill in the art for the Examiner's position as discussed above, it is submitted that there is in fact no motivation in Linnartz and Doi or in the knowledge generally available to one of ordinary skill in the art for one of ordinary skill in the art to

modify the combination of Linnartz and Doi in the manner proposed by the Examiner to provide a determining unit which determines whether the medium to be reproduced is a medium dedicated to reproduction or a recordable medium, and a stopping unit which stops reproduction in response to the information reproduced by said reproducing unit indicating that copying once was permitted and a result of the determining by said determining unit indicating that the medium is a medium dedicated to reproduction as recited in claim 1, such that the rejection of claim 1 under 35 USC 103(a) as being unpatentable over Linnartz in view of Doi is based solely on a hindsight reconstruction of the present invention arrived at by reading the appellants' disclosure, such that the Examiner has not established a prima facie case of obviousness under 35 USC 103(a) with respect to claim 1.

Accordingly, for the reasons discussed above, it is submitted that Linnartz and Doi do not disclose or suggest a determining unit which determines whether the medium to be reproduced is a medium dedicated to reproduction or a recordable medium, and a stopping unit which stops reproduction in response to the information reproduced by said reproducing unit indicating that copying once was permitted and a result of the determining by said determining unit indicating that the medium is a medium dedicated to reproduction as recited in claim 1.

Claim 4

Independent claim 4 recites a reproduction apparatus for reproducing video data and/or audio data from a medium dedicated to reproduction or a recordable medium having video data and/or audio data recorded thereon, said video data and/or audio data being generated by superimposing information concerning copying consent on a signal of digitized video data and/or a signal of digitized audio data, said reproduction apparatus comprising a reproducing unit which reproduces the information concerning copying consent superimposed on the video data and/or audio data, an identifying unit which identifies whether the medium to be reproduced is a medium dedicated to reproduction or a recordable medium, a stopping unit which stops reproduction in response to the information reproduced by said reproducing unit indicating that copying once was permitted and a result of the identification by the identifying unit indicating that the medium is a medium dedicated to reproduction, and an output unit which outputs video data and/or audio data representing a reason of stoppage.

It is submitted that Linnartz and Doi do not disclose or suggest an identifying unit which identifies whether the medium to be reproduced is a medium dedicated to reproduction or a recordable medium, and a stopping unit which stops reproduction in response to the information reproduced by said reproducing unit indicating that copying once was permitted and a result of the identification by the identifying unit

indicating that the medium is a medium dedicated to reproduction as recited in claim 4 for at least substantially the same reasons discussed above that Linnartz and Doi do not disclose or suggest the similar features of claim 1.

#### Claim 6

Independent claim 6 recites a reproduction apparatus for reproducing video data and/or audio data from a medium dedicated to reproduction or a recordable medium having video data and/or audio data recorded thereon, said video data and/or audio data being generated by superimposing information concerning copying consent on a signal of digitized video data and/or a signal of digitized audio data, said reproduction apparatus comprising a reproducing unit which reproduces the information concerning copying consent superimposed on the video data and/or audio data, a determining unit which determines whether the medium to be reproduced is a medium dedicated to reproduction or a recordable medium, a stopping unit which stops reproduction in response to the information reproduced by said reproducing unit indicating that copying once was permitted and a result of the determining by the determining unit indicating that the medium is a medium dedicated to reproduction, and an output unit which outputs a control signal, the control signal instructing a video signal and/or audio signal representing a reason of stoppage to be outputted.

It is submitted that Linnartz and Doi do not disclose or suggest a determining unit which determines whether the medium to be reproduced is a medium dedicated to reproduction or a recordable medium, a stopping unit which stops reproduction in response to the information reproduced by said reproducing unit indicating that copying once was permitted and a result of the determining by the determining unit indicating that the medium is a medium dedicated to reproduction as recited in claim 6 for at least substantially the same reasons discussed above that Linnartz and Doi do not disclose or suggest the similar features of claim 1.

#### Claim 8

Independent claim 8 recites a reproduction apparatus for reproducing video data and/or audio data from a medium dedicated to reproduction or a recordable medium having video data and/or audio data and a medium identification code recorded thereon, said video data and/or audio data being generated by superimposing information concerning copying consent on a signal of digitized video data and/or a signal of digitized audio data, said medium identification code identifying the medium dedicated to reproduction or the recordable medium, said reproduction apparatus comprising a permission information reproducing circuit reproducing the information concerning copying consent superimposed on the video data and/or audio data, a medium identification code detecting circuit detecting the medium identification code,

and a reproduction stopping circuit stopping reproduction in response to the information reproduced by said permission information reproducing circuit indicating that copying once was permitted and the medium identification code indicating a medium dedicated to reproduction.

It is submitted that Linnartz and Doi do not disclose or suggest a reproduction stopping circuit stopping reproduction in response to the information reproduced by said permission information reproducing circuit indicating that copying once was permitted and the medium identification code indicating a medium dedicated to reproduction as recited in claim 8 for at least substantially the same reasons discussed above that Linnartz and Doi do not disclose or suggest the similar features of claim 1.

#### Claim 9

Dependent 9 recites a reproduction apparatus for reproducing video data and/or audio data according to claim 8, wherein said medium identification code detecting circuit and said reproduction stopping circuit are integrated into a single semiconductor device.

It is submitted that Linnartz and Doi do not disclose or suggest the feature of claim 9 wherein said medium identification code detecting circuit and said reproduction stopping circuit are integrated into a single semiconductor device in combination with all of the other features recited in claim 8 from which claim 9 depends.

Claim 10

Independent claim 10 recites a reproduction apparatus for reproducing video data and/or audio data from a medium dedicated to reproduction or a recordable medium having video data and/or audio data recorded thereon, said video data and/or audio data being generated by superimposing information concerning copying consent on a signal of digitized video data and/or a signal of digitized audio data, said reproduction apparatus comprising a reproducing unit for reproducing the information concerning copying consent superimposed on the video data and/or audio data, a detecting unit for detecting reflectance of a disk, a determining unit for determining whether the disk is a recordable medium or a medium dedicated to reproduction on the basis of the reflectance of the disk, and a stopping unit for stopping reproduction in response to the information reproduced by said reproducing unit indicating that copying once was permitted and said determining unit indicating that the medium is a medium dedicated to reproduction.

It is submitted that Linnartz and Doi do not disclose or suggest a determining unit for determining whether the disk is a recordable medium or a medium dedicated to reproduction on the basis of the reflectance of the disk, and a stopping unit for stopping reproduction in response to the information reproduced by said reproducing unit indicating that copying once was permitted and said determining unit indicating that the medium is a medium dedicated to reproduction as recited in



claim 10 for at least substantially the same reasons discussed above that Linnartz and Doi do not disclose or suggest the similar features of claim 1.

Claim 11

Independent claim 11 recites a reproduction apparatus for reproducing video data and/or audio data from a medium dedicated to reproduction or a recordable medium having video data and/or audio data and a medium identification code recorded thereon, said video data and/or audio data being generated by superimposing information concerning copying consent on a signal of digitized video data and/or a signal of digitized audio data, said medium identification code identifying the medium dedicated to reproduction or the recordable medium, said reproduction apparatus comprising a reproducing unit for reproducing the information concerning copying consent superimposed on the video data and/or audio data, a medium identification code detecting unit for detecting the medium identification code, a reflectance detecting unit for detecting reflectance of a disk, a determining unit for determining whether the disk is a recordable medium or a medium dedicated to reproduction on the basis of the reflectance of the disk, and a stopping unit for stopping reproduction provided that the information reproduced by said reproducing unit indicates that copying once was permitted and the medium identification code or the determining unit indicates a medium dedicated to reproduction.

It is submitted that Linnartz and Doi do not disclose or suggest a determining unit for determining whether the disk is a recordable medium or a medium dedicated to reproduction on the basis of the reflectance of the disk, and a stopping unit for stopping reproduction provided that the information reproduced by said reproducing unit indicates that copying once was permitted and the medium identification code or the determining unit indicates a medium dedicated to reproduction as recited in claim 11 for at least substantially the same reasons discussed above that Linnartz and Doi do not disclose or suggest the similar features of claim 1.

#### Claim 14

Independent claim 14 recites a reproduction method for reproducing video data and/or audio data from a medium dedicated to reproduction or a recordable medium having video data and/or audio data recorded thereon, said video data and/or audio data being generated by superimposing information concerning copying consent on a signal of digitized video data and/or a signal of digitized audio data, said reproduction method comprising the steps of reproducing the information concerning copying consent superimposed on the video data and/or audio data, determining whether the medium to be reproduced is a medium dedicated to reproduction or a recordable medium, and stopping reproduction in response to the information reproduced by said information reproducing step indicating that copying once was permitted and a result

of said determining step indicating a medium dedicated to reproduction.

It is submitted that Linnartz and Doi do not disclose or suggest determining whether the medium to be reproduced is a medium dedicated to reproduction or a recordable medium, and stopping reproduction in response to the information reproduced by said information reproducing step indicating that copying once was permitted and a result of said determining step indicating a medium dedicated to reproduction as recited in claim 14 for at least substantially the same reasons discussed above that Linnartz and Doi do not disclose or suggest the similar features of claim 1.

#### Claim 16

Independent claim 16 recites a computer-readable program encoded in a memory medium, said program being executed in a computer to execute operation for reproducing video data and/or audio data from a medium dedicated to reproduction or a recordable medium having video data and/or audio data recorded thereon, said video data and/or audio data being generated by superimposing information concerning copying consent on a signal of digitized video data and/or a signal of digitized audio data, said operation comprising reproducing the information concerning copying consent superimposed on the video data and/or audio data, determining whether the medium to be reproduced is a medium dedicated to reproduction or a recordable medium, and stopping reproduction in response to

information reproduced by said information reproducing step indicating that copying once was permitted and a result of said determining step indicating a medium dedicated to reproduction.

It is submitted that Linnartz and Doi do not disclose or suggest determining whether the medium to be reproduced is a medium dedicated to reproduction or a recordable medium, and stopping reproduction in response to information reproduced by said information reproducing step indicating that copying once was permitted and a result of said determining step indicating a medium dedicated to reproduction as recited in claim 16 for at least substantially the same reasons discussed above that Linnartz and Doi do not disclose or suggest the similar features of claim 1.

#### Claim 24

Dependent 24 recites a reproduction apparatus according to claim 1, wherein the stopping unit is responsive to both the information reproduced by the reproducing unit indicating that copying once was permitted and the result of the determining by the determining unit indicating that the medium is a medium dedicated to reproduction to judge presence of an unauthorized copy in the medium and to stop reproduction to protect information in the unauthorized copy from being reproduced.

It is submitted that Linnartz and Doi do not disclose or suggest the features of claim 24 which are underlined above

for at least substantially the same reasons discussed above that Linnartz and Doi do not disclose or suggest the similar features of claim 1.

#### Claim 27

Dependent 27 recites a reproduction apparatus according to claim 4, wherein the stopping unit is responsive to both the information reproduced by the reproducing unit indicating that copying once was permitted and the result of the identification by the identifying unit indicating that the medium is a medium dedicated to reproduction to judge presence of an unauthorized copy in the medium and to stop reproduction to protect information in the unauthorized copy from being reproduced.

It is submitted that Linnartz and Doi do not disclose or suggest the features of claim 27 which are underlined above for at least substantially the same reasons discussed above that Linnartz and Doi do not disclose or suggest the similar features of claim 1.

#### Claim 29

Dependent 29 recites a reproduction apparatus according to claim 6, wherein the stopping unit is responsive to both the information reproduced by the reproducing unit indicating that copying once was permitted and the result of the determining by the determining unit indicating that the medium is a medium dedicated to reproduction to judge presence of an

unauthorized copy in the medium and to stop reproduction to protect information in the unauthorized copy from being reproduced.

It is submitted that Linnartz and Doi do not disclose or suggest the features of claim 29 which are underlined above for at least substantially the same reasons discussed above that Linnartz and Doi do not disclose or suggest the similar features of claim 1.

#### Claim 31

Dependent 31 recites a reproduction apparatus according to claim 8, wherein the reproduction stopping circuit is responsive to both the information reproduced by the permission information reproducing circuit indicating that copying once was permitted and the medium identification code indicating a medium dedicated to reproduction to judge presence of an unauthorized copy in the medium and to stop reproduction to protect information in the unauthorized copy from being reproduced.

It is submitted that Linnartz and Doi do not disclose or suggest the features of claim 31 which are underlined above for at least substantially the same reasons discussed above that Linnartz and Doi do not disclose or suggest the similar features of claim 1.

### Claim 32

Dependent 32 recites a reproduction apparatus according to claim 10, wherein the stopping unit is responsive to both the information reproduced by the reproducing unit indicating that copying once was permitted and the determining unit indicating that the medium is a medium dedicated to reproduction to judge presence of an unauthorized copy in the medium and to stop reproduction to protect information in the unauthorized copy from being reproduced.

It is submitted that Linnartz and Doi do not disclose or suggest the features of claim 32 which are underlined above for at least substantially the same reasons discussed above that Linnartz and Doi do not disclose or suggest the similar features of claim 1.

### Claim 33

Dependent 33 recites a reproduction apparatus according to claim 11, wherein the stopping unit is responsive to both the information reproduced by the reproducing unit indicating that copying once was permitted and the medium identification code or the determining unit indicating a medium dedicated to reproduction to judge presence of an unauthorized copy in the medium and to stop reproduction to protect information in the unauthorized copy from being reproduced.

It is submitted that Linnartz and Doi do not disclose or suggest the features of claim 33 which are underlined above for at least substantially the same reasons discussed above

that Linnartz and Doi do not disclose or suggest the similar features of claim 1.

#### Claim 36

Dependent 36 recites a reproduction method according to claim 14, wherein the stopping step is responsive to both the information reproduced by the information reproducing step indicating that copying once was permitted and the result of the determining step indicating a medium dedicated to reproduction to judge presence of an unauthorized copy in the medium and to stop reproduction to protect information in the unauthorized copy from being reproduced.

It is submitted that Linnartz and Doi do not disclose or suggest the features of claim 36 which are underlined above for at least substantially the same reasons discussed above that Linnartz and Doi do not disclose or suggest the similar features of claim 1.

#### Claim 38

Dependent 38 recites a computer-readable program according to claim 16, wherein the stopping step is responsive to both the information reproduced by the information reproducing step indicating that copying once was permitted and the result of the determining step indicating a medium dedicated to reproduction to judge presence of an unauthorized copy in the medium and to stop reproduction to protect information in the unauthorized copy from being reproduced.



It is submitted that Linnartz and Doi do not disclose or suggest the features of claim 38 which are underlined above for at least substantially the same reasons discussed above that Linnartz and Doi do not disclose or suggest the similar features of claim 1.

#### Conclusion--Issue 1

Since Linnartz and Doi do not disclose or suggest the features of claims 1, 4, 6, 8-11, 14, 16, 24, 27, 29, 31-33, 36, and 38 discussed above, it is submitted that claims 1, 4, 6, 8-11, 14, 16, 24, 27, 29, 31-33, 36, and 38 patentably distinguish over Linnartz and Doi in the sense of 35 USC 103(a), and it is respectfully requested that the rejection of claims 1, 4, 6, 8-11, 14, 16, 24, 27, 29, 31-33, 36, and 38 under 35 USC 103(a) as being unpatentable over Linnartz in view of Doi be reversed.

#### ISSUE 2

Claims 2-3, 5, 7, 15, 25-26, 28, 30, and 37 were rejected under 35 USC 103(a) as being unpatentable over Linnartz in view of Doi, Tozaki, Mardirossian, and Park '826.

#### Claim 2

Independent claim 2 recites a reproduction apparatus for reproducing video data and/or audio data from a medium dedicated to reproduction and/or a recordable medium having video data and/or audio data recorded thereon, said video data

and/or audio data being generated by superimposing information concerning copying consent on a signal of digitized video data and/or a signal of audio data, said reproduction apparatus comprising a reproducing unit which reproduces the information concerning copying consent superimposed on the video data and/or audio data, a determining unit which determines whether the medium to be reproduced is a medium dedicated to reproduction or a recordable medium, an error correction unit which conducts error correction according to an added correction code, and a destroying unit which destroys reproduced data so as to make the video data and/or audio data non-reproducible in response to the information reproduced by said reproducing unit indicating that copying once was permitted and a result of the determining by said determining unit indicating that the medium is a medium dedicated to reproduction.

In explaining the rejection of claim 2, the Examiner states as follows:

Linnartz discloses a reproduction apparatus for reproducing video data and/or audio data from a medium dedicated to reproduction and/or a recordable medium having video data and/or audio data recorded thereon, said video data and/or audio data being generated by superimposing information concerning copying permission on a signal of digitized video data and/or a signal of audio data or embedding the information therein (Abstract; see also column 2, line 26, through column 3, line 67), said reproduction apparatus comprising: a reproducing unit which reproduces the information concerning copying permission superimposed on or embedded in the video data and/or audio data (Abstract; column

5, lines 41-54); and a stopping unit which stops reproduction in response to the information reproduced by the reproducing unit indicating that copying once was permitted (column 3, lines 17-67; column 4, line 58, through column 5, line 2; column 6, lines 22-45). Linnartz discloses a determining unit which determines whether the medium to be reproduced is a recordable medium (column 5, lines 54-66; column 7, lines 4-13), but does not clearly and expressly disclose determining whether the medium to be reproduced is dedicated to reproduction or to recording; furthermore, Doi teaches determining whether a medium is dedicated to reproduction or recording (column 13, lines 46-55). Hence, it would have been obvious to one of ordinary skill in the art of copy protection at the time of applicant's invention to include in the apparatus of Linnartz a determining unit which determines whether a medium to be reproduced is a medium dedicated to reproduction or a recordable medium, according to Doi, and to stop reproduction in response to a result indicating that the medium is a medium dedicated to reproduction, for the obvious advantage of limiting the reproduction of proprietary information.

a. Linnartz does not disclose an error correction unit, but Tozaki et al. teach an error correction unit which conducts error correction according to an added correction code (column 14, lines 46-51; note also column 13, lines 51-57). Hence it would have been obvious to one of ordinary skill in the art of copy protection at the time of applicant's invention to include in the apparatus of Linnartz an error correction unit, for the stated advantage of correcting errors.

b. Linnartz does not disclose a destroying unit which destroys reproduced data so as to make the video data and/or audio data non-reproducible in response to information indicating that copying once was permitted and a result of the determining unit indicating that the medium is a medium dedicated to reproduction. However, Mardirossian

(5,636,096) teaches destroying data to prevent unauthorized copying (Abstract; column 5, lines 12-35). (See also, for example, Park, 5,796,826, Abstract; and column 5, lines 49-57.) Hence, it would have been obvious to one of ordinary skill in the art of copy protection at the time of applicant's invention to include in the apparatus of Linnartz a destroying unit which destroys reproduced data so as to make the video data and/or audio data non-reproducible in response to the information reproduced by a reproducing unit indicating that copying once was permitted and a result of the determining by the determining unit indicating that the medium is a medium dedicated to reproduction, for the obvious advantages of preventing unauthorized reproduction and deterring attempts thereat.

However, it is submitted that Linnartz and Doi do not disclose or suggest a determining unit which determines whether the medium to be reproduced is a medium dedicated to reproduction or a recordable medium, and a destroying unit which destroys reproduced data so as to make the video data and/or audio data non-reproducible in response to the information reproduced by said reproducing unit indicating that copying once was permitted and a result of the determining by said determining unit indicating that the medium is a medium dedicated to reproduction as recited in claim 2 for at least substantially the same reasons discussed above that Linnartz and Doi do not disclose or suggest the similar features of claim 1.

Nor is it seen where Tozaki, Mardirossian, and Park '826 disclose or suggest these features of claim 2.

Furthermore, it is submitted that the abstract of Mardirossian referred to by the Examiner discloses destroying

recorded data on a disk, rather than destroying reproduced data as recited in claim 2.

Furthermore, it is submitted that the abstract and column 5, lines 49-57, of Park '826 referred to by the Examiner disclose destroying a scrambling key which is reproduced from a video tape when a number of times the video tape is permitted to be reproduced is 0, rather than destroying reproduced data so as to make the video data and/or audio data non-reproducible in response to the information reproduced by said reproducing unit indicating that copying once was permitted and a result of the determining by said determining unit indicating that the medium is a medium dedicated to reproduction as recited in claim 2.

Accordingly, for the reasons discussed above, it is submitted that Linnartz, Doi, Tozaki, Mardirossian, and Park '826 do not disclose or suggest a determining unit which determines whether the medium to be reproduced is a medium dedicated to reproduction or a recordable medium, and a destroying unit which destroys reproduced data so as to make the video data and/or audio data non-reproducible in response to the information reproduced by said reproducing unit indicating that copying once was permitted and a result of the determining by said determining unit indicating that the medium is a medium dedicated to reproduction as recited in claim 2.

Claim 3

Independent claim 3 recites a reproduction apparatus for reproducing video data and/or audio data from a medium dedicated to reproduction or a recordable medium having video data and/or audio data recorded thereon, said video data and/or audio data being generated by superimposing information concerning copying consent on a signal of digitized video data and/or a signal of digitized audio data, said reproduction apparatus comprising a reproducing unit which reproduces the information concerning copying consent superimposed on the video data and/or audio data, a determining unit which determines whether the medium to be reproduced is a medium dedicated to reproduction or a recordable medium, an error correcting unit which conducts error correction according to an added correction code, and a destroying unit which destroys video data and/or audio data so as to make error detection of video data and/or audio data not yet subjected to error correction processing possible and make error correction thereof impossible in response to the information reproduced by said reproducing unit indicating that copying once was permitted and a result of the determination by the determining unit indicating that the medium is a medium dedicated to reproduction.

It is submitted that Linnartz, Doi, Tozaki, Mardirossian, and Park '826 do not disclose or suggest a determining unit which determines whether the medium to be reproduced is a medium dedicated to reproduction or a recordable medium, and a

destroying unit which destroys video data and/or audio data so as to make error detection of video data and/or audio data not yet subjected to error correction processing possible and make error correction thereof impossible in response to the information reproduced by said reproducing unit indicating that copying once was permitted and a result of the determination by the determining unit indicating that the medium is a medium dedicated to reproduction as recited in claim 3 for at least substantially the same reasons discussed above that Linnartz, Doi, Tozaki, Mardirossian, and Park '826 do not disclose or suggest the similar features of claim 2.

#### Claim 5

Independent claim 5 recites a reproduction apparatus for reproducing video data and/or audio data from a medium dedicated to reproduction or a recordable medium having video data and/or audio data recorded thereon, said video data and/or audio data being generated by superimposing information concerning copying consent on a signal of digitized video data and/or a signal of digitized audio data, said reproduction apparatus comprising a reproducing unit which reproduces the information concerning copying consent superimposed on the video data and/or audio data, an identifying unit which identifies whether the medium to be reproduced is a medium dedicated to reproduction or a recordable medium, an error correcting unit which conducts error correction according to an added correction code, a destroying unit which destroys

video data and/or audio data so as to make error detection of  
video data and/or audio data not yet subjected to error  
correction processing possible and make error correction  
thereof impossible in response to the information reproduced  
by said reproducing unit indicating that copying once was  
permitted and a result of the identification by the  
identifying unit indicating that the medium is a medium  
dedicated to reproduction, and an output unit which outputs  
video data and/or audio data representing a reason why  
reproduction is not possible.

It is submitted that Linnartz, Doi, Tozaki, Mardirossian,  
and Park '826 do not disclose or suggest an identifying unit  
which identifies whether the medium to be reproduced is a  
medium dedicated to reproduction or a recordable medium, and a  
destroying unit which destroys video data and/or audio data so  
as to make error detection of video data and/or audio data not  
yet subjected to error correction processing possible and make  
error correction thereof impossible in response to the  
information reproduced by said reproducing unit indicating  
that copying once was permitted and a result of the  
identification by the identifying unit indicating that the  
medium is a medium dedicated to reproduction as recited in  
claim 5 for at least substantially the same reasons discussed  
above that Linnartz, Doi, Tozaki, Mardirossian, and Park '826  
do not disclose or suggest the similar features of claim 2.



Claim 7

Independent claim 7 recites a reproduction apparatus for reproducing video data and/or audio data from a medium dedicated to reproduction or a recordable medium having video data and/or audio data recorded thereon, said video data and/or audio data being generated by superimposing information concerning copying consent on a signal of digitized video data and/or a signal of digitized audio data, said reproduction apparatus comprising a reproducing unit which reproduces the information concerning copying consent superimposed on the video data and/or audio data, a determining unit which determines whether the medium to be reproduced is a medium dedicated to reproduction or a recordable medium, an error correcting unit which conducts error correction according to an added correction code, a destroying unit which destroys video data and/or audio data so as to make error detection of video data and/or audio data not yet subjected to error correction processing possible and make error correction thereof impossible in response to the information reproduced by said reproducing unit indicating that copying once was permitted and a result of the determining by the determining unit indicating that the medium is a medium dedicated to reproduction, and an output unit which outputs a control signal, the control signal instructing video data and/or audio data representing a reason why reproduction is impossible to be outputted.

It is submitted that Linnartz, Doi, Tozaki, Mardirossian, and Park '826 do not disclose or suggest a determining unit which determines whether the medium to be reproduced is a medium dedicated to reproduction or a recordable medium, and a destroying unit which destroys video data and/or audio data so as to make error detection of video data and/or audio data not yet subjected to error correction processing possible and make error correction thereof impossible in response to the information reproduced by said reproducing unit indicating that copying once was permitted and a result of the determining by the determining unit indicating that the medium is a medium dedicated to reproduction as recited in claim 7 for at least substantially the same reasons discussed above that Linnartz, Doi, Tozaki, Mardirossian, and Park '826 do not disclose or suggest the similar features of claim 2.

#### Claim 15

Independent claim 15 recites a reproduction method for reproducing video data and/or audio data from a medium dedicated to reproduction or a recordable medium having video data and/or audio data recorded thereon, said video data and/or audio data being generated by superimposing information concerning copying consent on a signal of digitized video data and/or a signal of digitized audio data, said reproduction method comprising the steps of reproducing the information concerning copying consent superimposed on the video data and/or audio data, determining whether the medium to be

reproduced is a medium dedicated to reproduction or a recordable medium, conducting error correction according to an added correction code, and in response to the information reproduced by said information reproducing step indicating that copying once was permitted and a result of said determining step indicating a medium dedicated to reproduction, destroying reproduced data so as to make reproduction of the video data and/or audio data impossible and simultaneously judging error correction to be impossible.

It is submitted that Linnartz, Doi, Tozaki, Mardirossian, and Park '826 do not disclose or suggest determining whether the medium to be reproduced is a medium dedicated to reproduction or a recordable medium, and in response to the information reproduced by said information reproducing step indicating that copying once was permitted and a result of said determining step indicating a medium dedicated to reproduction, destroying reproduced data so as to make reproduction of the video data and/or audio data impossible and simultaneously judging error correction to be impossible as recited in claim 15 for at least substantially the same reasons discussed above that Linnartz, Doi, Tozaki, Mardirossian, and Park '826 do not disclose or suggest the similar features of claim 2.

#### Claim 25

Dependent 25 recites a reproduction apparatus according to claim 2, wherein the destroying unit is responsive to both

the information reproduced by the reproducing unit indicating that copying once was permitted and the result of the determining by the determining unit indicating that the medium is a medium dedicated to reproduction to judge presence of an unauthorized copy in the medium and to destroy reproduced data to protect information in the unauthorized copy from being reproduced.

It is submitted that Linnartz, Doi, Tozaki, Mardirossian, and Park '826 do not disclose or suggest the features of claim 25 which are underlined above for at least substantially the same reasons discussed above that Linnartz, Doi, Tozaki, Mardirossian, and Park '826 do not disclose or suggest the similar features of claim 2.

#### Claim 26

Dependent 26 recites a reproduction apparatus according to claim 3, wherein the destroying unit is responsive to both the information reproduced by the reproducing unit indicating that copying once was permitted and the result of the determination by the determining unit indicating that the medium is a medium dedicated to reproduction to judge presence of an unauthorized copy in the medium and to destroy video data and/or audio data to protect information in the unauthorized copy from being reproduced.

It is submitted that Linnartz, Doi, Tozaki, Mardirossian, and Park '826 do not disclose or suggest the features of claim 26 which are underlined above for at least substantially the

same reasons discussed above that Linnartz, Doi, Tozaki, Mardirossian, and Park '826 do not disclose or suggest the similar features of claim 2.

#### Claim 28

Dependent 28 recites a reproduction apparatus according to claim 5, wherein the destroying unit is responsive to both the information reproduced by the reproducing unit indicating that copying once was permitted and the result of the identification by the identifying unit indicating that the medium is a medium dedicated to reproduction to judge presence of an unauthorized copy in the medium and to destroy video data and/or audio data to protect information in the unauthorized copy from being reproduced.

It is submitted that Linnartz, Doi, Tozaki, Mardirossian, and Park '826 do not disclose or suggest the features of claim 28 which are underlined above for at least substantially the same reasons discussed above that Linnartz, Doi, Tozaki, Mardirossian, and Park '826 do not disclose or suggest the similar features of claim 2.

#### Claim 30

Dependent 30 recites a reproduction apparatus according to claim 7, wherein the destroying unit is responsive to both the information reproduced by the reproducing unit indicating that copying once was permitted and the result of the determining by the determining unit indicating that the medium

is a medium dedicated to reproduction to judge presence of an unauthorized copy in the medium and to destroy reproduced data to protect information in the unauthorized copy from being reproduced.

It is submitted that Linnartz, Doi, Tozaki, Mardirossian, and Park '826 do not disclose or suggest the features of claim 30 which are underlined above for at least substantially the same reasons discussed above that Linnartz, Doi, Tozaki, Mardirossian, and Park '826 do not disclose or suggest the similar features of claim 2.

#### Claim 37

Dependent 37 recites a reproduction method according to claim 15, wherein the destroying step is responsive to both the information reproduced by the information reproducing step indicating that copying once was permitted and the result of the determining step indicating a medium dedicated to reproduction to judge presence of an unauthorized copy in the medium and to destroy video data and/or audio data to protect information in the unauthorized copy from being reproduced.

It is submitted that Linnartz, Doi, Tozaki, Mardirossian, and Park '826 do not disclose or suggest the features of claim 37 which are underlined above for at least substantially the same reasons discussed above that Linnartz, Doi, Tozaki, Mardirossian, and Park '826 do not disclose or suggest the similar features of claim 2.

### Conclusion--Issue 2

Since Linnartz, Doi, Tozaki, Mardirossian, and Park '826 do not disclose or suggest the features of claims 2-3, 5, 7, 15, 25-26, 28, 30, and 37 discussed above, it is submitted that claims 2-3, 5, 7, 15, 25-26, 28, 30, and 37 patentably distinguish over Linnartz, Doi, Tozaki, Mardirossian, and Park '826 in the sense of 35 USC 103(a), and it is respectfully requested that the rejection of claims 2-3, 5, 7, 15, 25-26, 28, 30, and 37 under 35 USC 103(a) as being unpatentable over Linnartz in view of Doi, Tozaki, Mardirossian, and Park '826 be reversed.

### ISSUE 3

Claims 12-13 and 34-35 were rejected under 35 USC 103(a) as being unpatentable over Linnartz in view of Yokota et al. (Yokota) and Fox (the abstract of the article entitled "Wobble drives pirates off the digital seas", New Scientist, February 22, 1997, p. 22).

### Claim 12

Independent claim 12 recites a reproduction apparatus for reproducing video data and/or audio data from a medium dedicated to reproduction or a recordable medium having video data and/or audio data recorded thereon, said video data and/or audio data being generated by superimposing information concerning copying consent on a signal of digitized video data and/or a signal of digitized audio data, said medium dedicated

to reproduction having no wobbled grooves, said recordable medium having wobbled grooves, said reproduction apparatus comprising a reproducing unit for reproducing the information concerning copying consent superimposed on the video data and/or audio data, a wobble detecting unit for detecting wobbled grooves existing on a disk, and a stopping unit for stopping reproduction provided that the information reproduced by said reproducing unit indicates that copying once was permitted and said wobble detecting unit does not detect wobbled grooves.

In explaining the rejection of claim 12, the Examiner states as follows:

Linnartz discloses a reproduction apparatus for reproducing video data and/or audio data from a medium dedicated to reproduction or a recordable medium having video data and/or audio data recorded thereon, said video data and/or audio data being generated by superimposing information concerning copying consent on a signal of digitized video data and/or a signal of audio data (Abstract; see also column 2, line 26, through column 3, line 67), said reproduction apparatus comprising: a reproduction unit for reproducing the information concerning copying consent superimposed on the video data and/or audio data (Abstract; column 5, lines 41-54); and a stopping unit for stopping reproduction provided that the information reproduced by the reproduction unit indicates that copying once was permitted (column 3, lines 17-67; column 4, line 58, through column 5, line 2; column 6, lines 22-45). Linnartz does not disclose a wobble detection unit for detecting wobbled grooves existing on a disk, but Yokota et al. teach such a wobble detection unit (column 3, lines 43-55). Furthermore, Fox explicitly teaches preventing piracy by a system which



rejects disks for copying if they lack wobbled grooves (Abstract). Hence, it would have been obvious to one of ordinary skill in the art of copy protection at the time of applicant's invention to include in the apparatus of Linnartz a wobble detection unit for detecting wobbled grooves, and to stop reproduction if the wobble detecting unit does not detect wobbled grooves, for the stated advantage of limiting the reproduction of proprietary data.

At the outset, with respect to the Examiner's reliance on an abstract of Fox, rather than on the underlying Fox document itself, reference is made to the decision of the Board of Patent Appeals and Interferences in Ex parte Jones, 62 USPQ2d 1206 (Bd. Pat. App. & Int., 2001, unpublished), at 1208 where the Board states as follows in pertinent part:

The use of abstracts, when the underlying document is prior art, gives us considerable pause.

The Board of Patent Appeals and Interferences continues to have recurring problems in resolving *ex parte* appeals which come before it. One continuing recurring problem is the citation and reliance by examiners on abstracts, without citation and reliance on the underlying scientific document.

. . . Citation of an abstract without citation and reliance on the underlying scientific document itself is generally inappropriate where both the abstract and the underlying document are prior art. Abstracts often are not written by the author of the underlying document and may be erroneous. It is our opinion that a proper examination under 37 CFR § 1.104 should be based on the underlying documents and translations, where needed. Accordingly, the preferred practice is for the examiner to cite and rely on the underlying document.

When an examiner cites and relies only on an abstract, the applicant may wish to obtain a copy of the underlying document and submit a copy to the examiner when responding to a rejection relying on an abstract.

In light of this position taken by the Board, the appellants have submitted a copy of the underlying Fox document, i.e.

B. Fox, "Wobble drives pirates off the digital seas", New Scientist, Vol. 153, Issue 2070, February 22, 1997, page 22, published by Reed Business Information, Ltd., London, U.K., ISSN 0262-4079.

(hereafter referred to as the New Scientist reference) with the accompanying Information Disclosure Statement in which the New Scientist reference is cited.

Also cited in the accompanying Information Disclosure Statement are PCT reference WO 96/41468 which is cited in the New Scientist reference and discloses the DVD antipiracy system discussed in the New Scientist reference, and U.S. Patent No. 5,659,513 which issued from application Serial No. 08/473,047 which is the foreign priority application of PCT reference WO 96/41468. Copies of PCT reference WO 96/41468 and U.S. Patent No. 5,659,513 are attached to the accompanying Information Disclosure Statement.

As pointed out by the Examiner, Fox (the abstract) states that a disc without a wobble signature identifying an authentic disc will be rejected by a player as a pirated disc.

As described, for example, in column 2, lines 44-56, of Copeland et al. '513 (Copeland '513) (U.S. Patent No. 5,569,513 cited in the accompanying Information Disclosure

State) which discloses the DVD antipiracy system discussed in Fox (the abstract), an original disk which is made from a master (and thus is a disk which is dedicated to reproduction) has wobbled grooves, while a disk which is copied from the original disk using a DVD recorder (and thus is a recordable disc) does not have wobbled grooves.

Thus, Copeland '513, and thus Fox (the abstract) which discusses the DVD antipiracy system disclosed in Copeland, disclose that the disk dedicated to reproduction has wobbled grooves, and that the recordable disk has no wobbled grooves, which is exactly the opposite of the situation recited in claim 12 which recites that said medium dedicated to reproduction has no wobbled grooves, and that said recordable medium has wobbled grooves.

The only places wobbled grooves are mentioned in Yokota are column 3, line 43, and column 5, lines 10 and 47-50. Although it appears that Yokota discloses a recordable disk having wobbled grooves as recited in claim 12, it is not seen where Yokota discloses a disk dedicated to reproduction having no wobbled grooves as recited in claim 12.

Accordingly, it is submitted that Linnartz, Yokota, and Fox (the abstract) do not disclose or suggest the combination of a medium dedicated to reproduction having no wobbled grooves and a recordable medium having wobbled grooves recited in claim 12.

Claim 13

Independent claim 13 recites a reproduction apparatus for reproducing video data and/or audio data from a medium dedicated to reproduction or a recordable medium having video data and/or audio data and a medium identification code recorded thereon, said video data and/or audio data being generated by superimposing information concerning copying consent on a signal of digitized video data and/or a signal of digitized audio data, said medium identification code identifying the medium dedicated to reproduction or the recordable medium, said medium dedicated to reproduction having no wobbled grooves, said recordable medium having wobbled grooves, said reproduction apparatus comprising a reproducing unit for reproducing the information concerning copying consent superimposed on the video data and/or audio data, a wobble detecting unit for detecting wobbled grooves existing on a disk, a medium identification code detecting unit for detecting the medium identification code, and a stopping unit for stopping reproduction in response to the information reproduced by said reproducing unit indicating that copying once was permitted and that said wobble detecting unit does not detect wobbled grooves or the medium identification code indicates a medium dedicated to reproduction.

In explaining the rejection of claim 13, the Examiner states as follows in pertinent part:

Linnartz does not disclose a wobble detection unit for detecting wobbled

grooves existing on a disk, but Yokota et al. teach such a wobble detection unit (column 3, lines 43-55). Furthermore, Fox explicitly teaches preventing piracy by a system which rejects disks for copying if they lack wobbled grooves (Abstract). Hence, it would have been obvious to one of ordinary skill in the art of copy protection at the time of applicant's invention to include in the apparatus of Linnartz a wobble detection unit for detecting wobbled grooves, and to stop reproduction if the wobble detecting unit does not detect wobbled grooves, for the stated advantage of limiting the reproduction of proprietary data.

However, it is submitted that Linnartz, Yokota, and Fox (the abstract) do not disclose or suggest the combination of a medium dedicated to reproduction having no wobbled grooves and a recordable medium having wobbled grooves recited in claim 13 for the same reasons discussed above that Linnartz, Yokota, and Fox (the abstract) do not disclose or suggest the same features of claim 12.

#### Claim 34

Dependent 34 recites a reproduction apparatus according to claim 12, wherein the stopping unit is responsive to both the information reproduced by the reproducing unit indicating that copying once was permitted and the wobble detecting unit not detecting wobbled grooves to judge presence of an unauthorized copy in the medium and to stop reproduction to protect information in the unauthorized copy from being reproduced.

It is submitted that Linnartz, Yokota, and Fox (the abstract) do not disclose or suggest the features of claim 34

which are underlined above in combination with all of the other features recited in claim 12 from which claim 34 depends.

#### Claim 35

Dependent 35 recites a reproduction apparatus according to claim 13, wherein the stopping unit is responsive to both the information reproduced by the reproducing unit indicating that copying once was permitted and the wobble detecting unit not detecting wobbled grooves or the medium identification code indicating a medium dedicated to reproduction to judge presence of an unauthorized copy in the medium and to stop reproduction to protect information in the unauthorized copy from being reproduced.

It is submitted that Linnartz, Yokota, and Fox (the abstract) do not disclose or suggest the features of claim 35 which are underlined above in combination with all of the other features recited in claim 13 from which claim 35 depends.

#### Conclusion--Issue 3

Since Linnartz, Yokota, and Fox do not disclose or suggest the features of claims 12-13 and 34-35 discussed above, it is submitted that claims 12-13 and 34-35 patentably distinguish over Linnartz, Yokota, and Fox in the sense of 35 USC 103(a), and it is respectfully requested that the rejection of claims 12-13 and 34-35 under 35 USC 103(a) as

being unpatentable over Linnartz in Yokota and Fox be  
reversed.

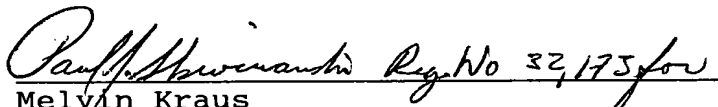
CONCLUSION

For the reasons set forth above, it is respectfully  
requested that the rejections of claims 1-16 and 24-38 under  
35 USC 103(a) be reversed.

To the extent necessary, the appellants petition for an  
extension of time under 37 CFR 1.136. Please charge any  
shortage in fees due in connection with the filing of this  
paper, including extension of time fees and appeal fees, or  
credit any overpayment of fees, to the deposit account of  
Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No.  
01-2135 (500.37136X00).

Respectfully submitted,

ANTONELLI, TERRY, STOUT & KRAUS, LLP

  
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Attachments

## APPENDIX

1. A reproduction apparatus for reproducing video data and/or audio data from a medium dedicated to reproduction or a recordable medium having video data and/or audio data recorded thereon, said video data and/or audio data being generated by superimposing information concerning copying permission on a signal of digitized video data and/or a signal of digitized audio data or embedding the information therein, said reproduction apparatus comprising:

a reproducing unit which reproduces the information concerning copying permission superimposed on or embedded in the video data and/or audio data;

a determining unit which determines whether the medium to be reproduced is a medium dedicated to reproduction or a recordable medium; and

a stopping unit which stops reproduction in response to the information reproduced by said reproducing unit indicating that copying once was permitted and a result of the determining by said determining unit indicating that the medium is a medium dedicated to reproduction.

2. A reproduction apparatus for reproducing video data and/or audio data from a medium dedicated to reproduction or a recordable medium having video data and/or audio data recorded thereon, said video data and/or audio data being generated by superimposing information concerning copying consent on a



signal of digitized video data and/or a signal of digitized audio data, said reproduction apparatus comprising:

a reproducing unit which reproduces the information concerning copying consent superimposed on the video data and/or audio data;

a determining unit which determines whether the medium to be reproduced is a medium dedicated to reproduction or a recordable medium;

an error correcting unit which conducts error correction according to an added correction code; and

a destroying unit which destroys reproduced data so as to make the video data and/or audio data non-reproducible in response to the information reproduced by said reproducing unit indicating that copying once was permitted and a result of the determining by said determining unit indicating that the medium is a medium dedicated to reproduction.

3. A reproduction apparatus for reproducing video data and/or audio data from a medium dedicated to reproduction or a recordable medium having video data and/or audio data recorded thereon, said video data and/or audio data being generated by superimposing information concerning copying consent on a signal of digitized video data and/or a signal of digitized audio data, said reproduction apparatus comprising:

a reproducing unit which reproduces the information concerning copying consent superimposed on the video data and/or audio data;

a determining unit which determines whether the medium to be reproduced is a medium dedicated to reproduction or a recordable medium;

an error correcting unit which conducts error correction according to an added correction code; and

a destroying unit which destroys video data and/or audio data so as to make error detection of video data and/or audio data not yet subjected to error correction processing possible and make error correction thereof impossible in response to the information reproduced by said reproducing unit indicating that copying once was permitted and a result of the determination by the determining unit indicating that the medium is a medium dedicated to reproduction.

4. A reproduction apparatus for reproducing video data and/or audio data from a medium dedicated to reproduction or a recordable medium having video data and/or audio data recorded thereon, said video data and/or audio data being generated by superimposing information concerning copying consent on a signal of digitized video data and/or a signal of digitized audio data, said reproduction apparatus comprising:

a reproducing unit which reproduces the information concerning copying consent superimposed on the video data and/or audio data;

an identifying unit which identifies whether the medium to be reproduced is a medium dedicated to reproduction or a recordable medium;

a stopping unit which stops reproduction in response to the information reproduced by said reproducing unit indicating that copying once was permitted and a result of the identification by the identifying unit indicating that the medium is a medium dedicated to reproduction; and

an output unit which outputs video data and/or audio data representing a reason of stoppage.

5. A reproduction apparatus for reproducing video data and/or audio data from a medium dedicated to reproduction or a recordable medium having video data and/or audio data recorded thereon, said video data and/or audio data being generated by superimposing information concerning copying consent on a signal of digitized video data and/or a signal of digitized audio data, said reproduction apparatus comprising:

a reproducing unit which reproduces the information concerning copying consent superimposed on the video data and/or audio data;

an identifying unit which identifies whether the medium to be reproduced is a medium dedicated to reproduction or a recordable medium;

an error correcting unit which conducts error correction according to an added correction code;

a destroying unit which destroys video data and/or audio data so as to make error detection of video data and/or audio data not yet subjected to error correction processing possible and make error correction thereof impossible in

response to the information reproduced by said reproducing unit indicating that copying once was permitted and a result of the identification by the identifying unit indicating that the medium is a medium dedicated to reproduction; and

an output unit which outputs video data and/or audio data representing a reason why reproduction is not possible.

6. A reproduction apparatus for reproducing video data and/or audio data from a medium dedicated to reproduction or a recordable medium having video data and/or audio data recorded thereon, said video data and/or audio data being generated by superimposing information concerning copying consent on a signal of digitized video data and/or a signal of digitized audio data, said reproduction apparatus comprising:

a reproducing unit which reproduces the information concerning copying consent superimposed on the video data and/or audio data;

a determining unit which determines whether the medium to be reproduced is a medium dedicated to reproduction or a recordable medium;

a stopping unit which stops reproduction in response to the information reproduced by said reproducing unit indicating that copying once was permitted and a result of the determining by the determining unit indicating that the medium is a medium dedicated to reproduction; and

an output unit which outputs a control signal, the control signal instructing a video signal and/or audio signal representing a reason of stoppage to be outputted.

7. A reproduction apparatus for reproducing video data and/or audio data from a medium dedicated to reproduction or a recordable medium having video data and/or audio data recorded thereon, said video data and/or audio data being generated by superimposing information concerning copying consent on a signal of digitized video data and/or a signal of digitized audio data, said reproduction apparatus comprising:

a reproducing unit which reproduces the information concerning copying consent superimposed on the video data and/or audio data;

a determining unit which determines whether the medium to be reproduced is a medium dedicated to reproduction or a recordable medium;

an error correcting unit which conducts error correction according to an added correction code;

a destroying unit which destroys video data and/or audio data so as to make error detection of video data and/or audio data not yet subjected to error correction processing possible and make error correction thereof impossible in response to the information reproduced by said reproducing unit indicating that copying once was permitted and a result of the determining by the determining unit indicating that the medium is a medium dedicated to reproduction; and

an output unit which outputs a control signal, the control signal instructing video data and/or audio data representing a reason why reproduction is impossible to be outputted.

8. A reproduction apparatus for reproducing video data and/or audio data from a medium dedicated to reproduction or a recordable medium having video data and/or audio data and a medium identification code recorded thereon, said video data and/or audio data being generated by superimposing information concerning copying consent on a signal of digitized video data and/or a signal of digitized audio data, said medium identification code identifying the medium dedicated to reproduction or the recordable medium, said reproduction apparatus comprising:

- a permission information reproducing circuit reproducing the information concerning copying consent superimposed on the video data and/or audio data;

- a medium identification code detecting circuit detecting the medium identification code; and

- a reproduction stopping circuit stopping reproduction in response to the information reproduced by said permission information reproducing circuit indicating that copying once was permitted and the medium identification code indicating a medium dedicated to reproduction.

9. A reproduction apparatus for reproducing video data and/or audio data according to claim 8, wherein said medium identification code detecting circuit and said reproduction stopping circuit are integrated into a single semiconductor device.

10. A reproduction apparatus for reproducing video data and/or audio data from a medium dedicated to reproduction or a recordable medium having video data and/or audio data recorded thereon, said video data and/or audio data being generated by superimposing information concerning copying consent on a signal of digitized video data and/or a signal of digitized audio data, said reproduction apparatus comprising:

- a reproducing unit for reproducing the information concerning copying consent superimposed on the video data and/or audio data;

- a detecting unit for detecting reflectance of a disk;

- a determining unit for determining whether the disk is a recordable medium or a medium dedicated to reproduction on the basis of the reflectance of the disk; and

- a stopping unit for stopping reproduction in response to the information reproduced by said reproducing unit indicating that copying once was permitted and said determining unit indicating that the medium is a medium dedicated to reproduction.

11. A reproduction apparatus for reproducing video data and/or audio data from a medium dedicated to reproduction or a recordable medium having video data and/or audio data and a medium identification code recorded thereon, said video data and/or audio data being generated by superimposing information concerning copying consent on a signal of digitized video data and/or a signal of digitized audio data, said medium identification code identifying the medium dedicated to reproduction or the recordable medium, said reproduction apparatus comprising:

- a reproducing unit for reproducing the information concerning copying consent superimposed on the video data and/or audio data;

- a medium identification code detecting unit for detecting the medium identification code;

- a reflectance detecting unit for detecting reflectance of a disk;

- a determining unit for determining whether the disk is a recordable medium or a medium dedicated to reproduction on the basis of the reflectance of the disk; and

- a stopping unit for stopping reproduction provided that the information reproduced by said reproducing unit indicates that copying once was permitted and the medium identification code or the determining unit indicates a medium dedicated to reproduction.



12. A reproduction apparatus for reproducing video data and/or audio data from a medium dedicated to reproduction or a recordable medium having video data and/or audio data recorded thereon, said video data and/or audio data being generated by superimposing information concerning copying consent on a signal of digitized video data and/or a signal of digitized audio data, said medium dedicated to reproduction having no wobbled grooves, said recordable medium having wobbled grooves, said reproduction apparatus comprising:

a reproducing unit for reproducing the information concerning copying consent superimposed on the video data and/or audio data;

a wobble detecting unit for detecting wobbled grooves existing on a disk; and

a stopping unit for stopping reproduction provided that the information reproduced by said reproducing unit indicates that copying once was permitted and said wobble detecting unit does not detect wobbled grooves.

13. A reproduction apparatus for reproducing video data and/or audio data from a medium dedicated to reproduction or a recordable medium having video data and/or audio data and a medium identification code recorded thereon, said video data and/or audio data being generated by superimposing information concerning copying consent on a signal of digitized video data and/or a signal of digitized audio data, said medium identification code identifying the medium dedicated to

reproduction or the recordable medium, said medium dedicated to reproduction having no wobbled grooves, said recordable medium having wobbled grooves, said reproduction apparatus comprising:

a reproducing unit for reproducing the information concerning copying consent superimposed on the video data and/or audio data;

a wobble detecting unit for detecting wobbled grooves existing on a disk;

a medium identification code detecting unit for detecting the medium identification code; and

a stopping unit for stopping reproduction in response to the information reproduced by said reproducing unit indicating that copying once was permitted and that said wobble detecting unit does not detect wobbled grooves or the medium identification code indicates a medium dedicated to reproduction.

14. A reproduction method for reproducing video data and/or audio data from a medium dedicated to reproduction or a recordable medium having video data and/or audio data recorded thereon, said video data and/or audio data being generated by superimposing information concerning copying consent on a signal of digitized video data and/or a signal of digitized audio data, said reproduction method comprising the steps of:

reproducing the information concerning copying consent superimposed on the video data and/or audio data;

determining whether the medium to be reproduced is a medium dedicated to reproduction or a recordable medium; and

stopping reproduction in response to the information reproduced by said information reproducing step indicating that copying once was permitted and a result of said determining step indicating a medium dedicated to reproduction.

15. A reproduction method for reproducing video data and/or audio data from a medium dedicated to reproduction or a recordable medium having video data and/or audio data recorded thereon, said video data and/or audio data being generated by superimposing information concerning copying consent on a signal of digitized video data and/or a signal of digitized audio data, said reproduction method comprising the steps of:

reproducing the information concerning copying consent superimposed on the video data and/or audio data;

determining whether the medium to be reproduced is a medium dedicated to reproduction or a recordable medium;

conducting error correction according to an added correction code; and

in response to the information reproduced by said information reproducing step indicating that copying once was permitted and a result of said determining step indicating a medium dedicated to reproduction, destroying reproduced data so as to make reproduction of the video data and/or audio data

impossible and simultaneously judging error correction to be impossible.

16. A computer-readable program encoded in a memory medium, said program being executed in a computer to execute operation for reproducing video data and/or audio data from a medium dedicated to reproduction or a recordable medium having video data and/or audio data recorded thereon, said video data and/or audio data being generated by superimposing information concerning copying consent on a signal of digitized video data and/or a signal of digitized audio data, said operation comprising:

reproducing the information concerning copying consent superimposed on the video data and/or audio data;

determining whether the medium to be reproduced is a medium dedicated to reproduction or a recordable medium; and

stopping reproduction in response to information reproduced by said information reproducing step indicating that copying once was permitted and a result of said determining step indicating a medium dedicated to reproduction.

24. A reproduction apparatus according to claim 1, wherein the stopping unit is responsive to both the information reproduced by the reproducing unit indicating that copying once was permitted and the result of the determining by the determining unit indicating that the medium is a medium

dedicated to reproduction to judge presence of an unauthorized copy in the medium and to stop reproduction to protect information in the unauthorized copy from being reproduced.

25. A reproduction apparatus according to claim 2, wherein the destroying unit is responsive to both the information reproduced by the reproducing unit indicating that copying once was permitted and the result of the determining by the determining unit indicating that the medium is a medium dedicated to reproduction to judge presence of an unauthorized copy in the medium and to destroy reproduced data to protect information in the unauthorized copy from being reproduced.

26. A reproduction apparatus according to claim 3, wherein the destroying unit is responsive to both the information reproduced by the reproducing unit indicating that copying once was permitted and the result of the determination by the determining unit indicating that the medium is a medium dedicated to reproduction to judge presence of an unauthorized copy in the medium and to destroy video data and/or audio data to protect information in the unauthorized copy from being reproduced.

27. A reproduction apparatus according to claim 4, wherein the stopping unit is responsive to both the information reproduced by the reproducing unit indicating that copying once was permitted and the result of the

identification by the identifying unit indicating that the medium is a medium dedicated to reproduction to judge presence of an unauthorized copy in the medium and to stop reproduction to protect information in the unauthorized copy from being reproduced.

28. A reproduction apparatus according to claim 5, wherein the destroying unit is responsive to both the information reproduced by the reproducing unit indicating that copying once was permitted and the result of the identification by the identifying unit indicating that the medium is a medium dedicated to reproduction to judge presence of an unauthorized copy in the medium and to destroy video data and/or audio data to protect information in the unauthorized copy from being reproduced.

29. A reproduction apparatus according to claim 6, wherein the stopping unit is responsive to both the information reproduced by the reproducing unit indicating that copying once was permitted and the result of the determining by the determining unit indicating that the medium is a medium dedicated to reproduction to judge presence of an unauthorized copy in the medium and to stop reproduction to protect information in the unauthorized copy from being reproduced.

30. A reproduction apparatus according to claim 7, wherein the destroying unit is responsive to both the

information reproduced by the reproducing unit indicating that copying once was permitted and the result of the determining by the determining unit indicating that the medium is a medium dedicated to reproduction to judge presence of an unauthorized copy in the medium and to destroy reproduced data to protect information in the unauthorized copy from being reproduced.

31. A reproduction apparatus according to claim 8, wherein the reproduction stopping circuit is responsive to both the information reproduced by the permission information reproducing circuit indicating that copying once was permitted and the medium identification code indicating a medium dedicated to reproduction to judge presence of an unauthorized copy in the medium and to stop reproduction to protect information in the unauthorized copy from being reproduced.

32. A reproduction apparatus according to claim 10, wherein the stopping unit is responsive to both the information reproduced by the reproducing unit indicating that copying once was permitted and the determining unit indicating that the medium is a medium dedicated to reproduction to judge presence of an unauthorized copy in the medium and to stop reproduction to protect information in the unauthorized copy from being reproduced.

33. A reproduction apparatus according to claim 11, wherein the stopping unit is responsive to both the

information reproduced by the reproducing unit indicating that copying once was permitted and the medium identification code or the determining unit indicating a medium dedicated to reproduction to judge presence of an unauthorized copy in the medium and to stop reproduction to protect information in the unauthorized copy from being reproduced.

34. A reproduction apparatus according to claim 12, wherein the stopping unit is responsive to both the information reproduced by the reproducing unit indicating that copying once was permitted and the wobble detecting unit not detecting wobbled grooves to judge presence of an unauthorized copy in the medium and to stop reproduction to protect information in the unauthorized copy from being reproduced.

35. A reproduction apparatus according to claim 13, wherein the stopping unit is responsive to both the information reproduced by the reproducing unit indicating that copying once was permitted and the wobble detecting unit not detecting wobbled grooves or the medium identification code indicating a medium dedicated to reproduction to judge presence of an unauthorized copy in the medium and to stop reproduction to protect information in the unauthorized copy from being reproduced.

36. A reproduction method according to claim 14, wherein the stopping step is responsive to both the information



reproduced by the information reproducing step indicating that copying once was permitted and the result of the determining step indicating a medium dedicated to reproduction to judge presence of an unauthorized copy in the medium and to stop reproduction to protect information in the unauthorized copy from being reproduced.

37. A reproduction method according to claim 15, wherein the destroying step is responsive to both the information reproduced by the information reproducing step indicating that copying once was permitted and the result of the determining step indicating a medium dedicated to reproduction to judge presence of an unauthorized copy in the medium and to destroy video data and/or audio data to protect information in the unauthorized copy from being reproduced.

38. A computer-readable program according to claim 16, wherein the stopping step is responsive to both the information reproduced by the information reproducing step indicating that copying once was permitted and the result of the determining step indicating a medium dedicated to reproduction to judge presence of an unauthorized copy in the medium and to stop reproduction to protect information in the unauthorized copy from being reproduced.

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INTERNATIONAL  
STANDARD**

**CEI  
IEC  
60958-3**

Première édition  
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**Interface audionumérique –**

**Partie 3:  
Applications grand public**

**Digital audio interface –**

**Part 3:  
Consumer applications**



Numéro de référence  
Reference number  
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*Byte 0: General control and mode information*

## Control:

Bit 0	"0"	Consumer use of channel status block.
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NOTE The significance of byte 0, bit 0 is such that transmission from an interface conforming to IEC 60958-4 can be identified.

Bit 1	"0"	Audio sample word represents linear PCM samples.
	"1"	Audio sample word used for other purposes.

Bit 2	"0"	Software for which copyright is asserted.
	"1"	Software for which no copyright is asserted.

NOTE Bit 2 is referred to as the "Cp-bit". It should be indicated whether copyright protection has been asserted.

The copyright status may be unknown for certain applications. The above interpretation is therefore not valid in combination with some category codes (see annexes). The Cp-bit can alternate between 0 and 1 at a rate between 4 Hz and 10 Hz (see annex A).

Bits 3-5	Additional format information, meaning depends on bit 1.
-------------	--

## When bit 1 = "0", linear PCM audio mode:

bit	3 4 5	
state	"0 0 0"	2 audio channels without pre-emphasis.
	"1 0 0"	2 audio channels with 50/15 µs pre-emphasis.
	"0 1 0"	Reserved (for 2 audio channels with pre-emphasis).
	"1 1 0"	Reserved (for 2 audio channels with pre-emphasis).

All other states of bits 3-5 are reserved and shall not be used until further defined.

## When bit 1 = "1", other than linear PCM applications:

bit	3 4 5	
state	"0 0 0"	Default state for applications other than linear PCM.

All other states of bits 3-5 are reserved and shall not be used until further defined.

Bits 6-7	Channel status mode, indicates one of four possible channel status formats (bytes 1 to 23). There are four possible modes for each of the states of bit 1.
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bit	6 7	
state	"0 0"	Mode 0, refer to 4.2.2.

All other states of bits 6-7 are reserved and shall not be used until further defined.

The contents of bits 8 to 191 depend on the mode as indicated by bits 6 and 7. If not defined otherwise, the default value is "0".

*Byte 0* as defined in 4.2.1, with:

Bit 1	"0"	Audio sample word represents linear PCM samples.
Bits 6-7	"0 0"	Mode 0.

*Byte 1*: Category code

The category code indicates the kind of equipment that generates the digital audio interface signal. See the relevant annexes for the assignments. Bit 8 = LSB, bit 15 = MSB.

*Byte 2*: Source and channel number

Bits 16-19 Source number, bit 16 = LSB, bit 19 = MSB.

bit	16	17	18	19	
state	"0 0 0 0"	Do not take into account.			
	"1 0 0 0"	1			
	"0 1 0 0"	2			
	"1 1 0 0"	3			
	.....				
	"1 1 1 1"	15			

Bits 20-23 Channel number (audio channel), bit 20 = LSB, bit 23 = MSB.

bit	20	21	22	23	
state	"0 0 0 0"	Do not take into account.			
	"1 0 0 0"	A (left channel for stereo channel format).			
	"0 1 0 0"	B (right channel for stereo channel format).			
	"1 1 0 0"	C			
	.....				
	"1 1 1 1"	O			

*Byte 3*: Sampling frequency and clock accuracy

Bits 24-27 Sampling frequency

bit	24	25	26	27	
state	"0 0 0 0"	44,1 kHz			
	"0 1 0 0"	48 kHz			
	"1 1 0 0"	32 kHz			

All other combinations are reserved and shall not be used until further defined.

Bits 28-29 Clock accuracy.

bit	28	29	
state	"0 0"	Level II.	
	"1 0"	Level I.	
	"0 1"	Level III.	
	"1 1"	Reserved.	

**Byte 4: Word length**

Bit 32	"0"	Maximum audio sample word length is 20 bits.
	"1"	Maximum audio sample word length is 24 bits.

Bits 33-35 bit	Sample word length			Audio sample word length if maximum length is 24 bits as indicated by bit 32.	Audio sample word length if maximum length is 20 bits as indicated by bit 32.
	33	34	35		
state	"0 0 0"			Word length not indicated (default)	Word length not indicated (default)
	"1 0 0"			20 bits	16 bits
	"0 1 0"			22 bits	18 bits
	"0 0 1"			23 bits	19 bits
	"1 0 1"			24 bits	20 bits
	"0 1 1"			21 bits	17 bits

All other combinations are reserved and shall not be used until further defined.

NOTE The first edition of IEC 60958 had bits 32 to 35 reserved and set to zero. Therefore, the all zero state for these bits on a received signal may be an indicator that the word length indication has not been implemented.

Unless otherwise specified in the annexes, the following specification is applicable:

- Audio sample word has a length of 20 bits/sample. The auxiliary sample bits are an optional expansion of the audio sample, if not used = "0".
- User data is not used, all bits = "0".
- Channel status is identical for all channels, with the exception of the channel number, if not equal to zero.

### 4.3 Copyright management guidelines for consumer application of the digital audio interface

#### 4.3.1 General

Category codes are defined for all consumer products that are capable of supplying a digital signal to consumer digital audio recorders, except for products that are fully transparent from input to output.

Category codes for products have been grouped by general function of the product. This makes it possible to take into account future digital recording products not yet defined in detail. Such a product then deals with the group code under a general rule. These rules define whether a digital recorder is enabled to record a copyright protected digital signal.

Unless otherwise specified, any consumer equipment capable of transferring digital audio information from an input terminal to an output terminal, if not fully transparent and regardless of the delay or kind of transformation of the audio content of the signal, shall copy channel status bits 0, 1, 3, 4, 5, 6 and 7 from the source. Bit 2 shall be copied from the source, unless otherwise specified in the annexes.

Bit 15 is referred to as the "L-bit". It shall indicate the "generation status" of the digital audio signal.

"Generation status" means:

- whether the signal emanates from a source that has been produced or published or authorized by the rights owner of the material, such as commercially released pre-recorded compact discs or DAT tapes or a digital broadcast (referred to herein as "original") and for which copyright has been asserted;
- or whether the signal emanates from a recording made from such "original" material (referred to herein as "a home-copy of generation 1 or higher").

Generally the L-bit is specified as:

Bit 15	"0"	No indication.
	"1"	Commercially released pre-recorded software.

For historical reasons, the reverse situation is valid for the signals originating from:

- laser optical products (category code "100 XXXXL");
- broadcast reception (category codes "001 XXXXL" and "011 1XXXL").

For these category codes the L-bit shall indicate:

Bit 15	"0"	Commercially released pre-recorded software.
	"1"	No indication.

The generation status may be unknown for certain applications. The above interpretation is therefore not valid in combination with some category codes such as:

- general (category code "000 00000");
- analogue/digital converters for analogue signals without copyright information (category code "011 00XXXL").

#### 4.3.2 Category code groups

4.3.2.1 The category code groups are defined in table 3.

**Table 3 – Category code groups**

Bit 8... 15	Category
"000 00000"	General. Used temporarily
"100 XXXXL"	Laser optical products
"010 XXXXL"	Digital/digital converters and signal processing products
"110 XXXXL"	Magnetic tape or disc based products
"001 XXXXL" and "011 1XXXL"	Broadcast reception of digitally encoded audio signals with or without video signals
"101 XXXXL"	Musical instruments, microphones and other sources without copyright information
"011 00XXXL"	Analogue/digital converters for analogue signals without copyright information
"011 01XXXL"	Analogue/digital converters for analogue signals which include copyright information in the form of "Cp-bit and L-bit status"
"000 1XXXL"	Solid state memory based products
"000 0001L"	Experimental products not for commercial sale
"111 XXXXL"	Not defined. Reserved
"000 0XXXL"	Not defined. Reserved, except "000 00000" and "000 0001L"

Table C.1 – Use of Cp-bit, L-bit and category code for DAT

Application or source signal	Input signal to DAT-recorder for consumer audio use of C-channel			On DAT tape	Effect on DAT output
	Cp-bit bit 2	Category code Bits 8 to 14	L-bit Bit 15	ID 6	Cp-bit / L-bit bit 2 / bit 15
General Laser optical product D/D converter Magnetic product Broadcast reception  Musical instrument Present A/D converter Future A/D converter Solid state memory Experimental	No copyright "1"		Home copy "0"		Recordable
	"1"	"0000000"	"0"	"11"	Set bit 2 to "0"
	"1"	"100XXXX"	"1"	"00"	Set bit 2 to "0"
	"1"	"010XXXX"	"0"	"00"	
	"1"	"110XXXX"	"0"	"00"	
	"1"	"001XXXX" and "0111XXX"	"1"	"00"	
	"1"	"101XXXX"	"0"	"00"	
	"1"	"01100XX"	"0"	"11"	
	"1"	"01101XX"	"0"	"00"	
	"1"	"0001XXX"	"0"	"00"	
	"1"	"0000001"	"0"	"00"	
General Laser optical product D/D converter Magnetic product Broadcast reception  Musical instrument Present A/D converter Future A/D converter Solid state memory Experimental	No copyright "1"		Pre-recorded "1"		Recordable
	"1"	"0000000"	"1"	"11"	Set bit 2 to "0"
	"1"	"100XXXX"	"0"	"00"	Set bit 2 to "0"
	"1"	"010XXXX"	"1"	"00"	
	"1"	"110XXXX"	"1"	"00"	
	"1"	"001XXXX" and "0111XXX"	"0"	"00"	
	"1"	"101XXXX"	"1"	"00"	
	"1"	"01100XX"	"1"	"11"	
	"1"	"01101XX"	"1"	"00"	
	"1"	"0001XXX"	"1"	"00"	
	"1"	"0000001"	"1"	"00"	
D/D converter Magnetic product Musical instrument Future A/D converter Solid state memory Experimental	With copyright "0"		Home copy "0"		Not recordable
	"0"	"010XXXX"	"0"	–	Not recordable
	"0"	"110XXXX"	"0"	–	Not recordable
	"0"	"101XXXX"	"0"	–	Not recordable
	"0"	"01101XX"	"0"	–	Not recordable
	"0"	"0001XXX"	"0"	–	Not recordable
	"0"	"0000001"	"0"	–	Not recordable
D/D converter Magnetic product Musical instrument Future A/D converter Solid state memory Experimental  Laser optical product Broadcast reception Broadcast reception	With copyright "0"		Pre-recorded "1"		Recordable set bit 15 to "0"
	"0"	"010XXXX"	"1"	"10"	Set bit 15 to "0"
	"0"	"110XXXX"	"1"	"10"	Set bit 15 to "0"
	"0"	"101XXXX"	"1"	"10"	Set bit 15 to "0"
	"0"	"01101XX"	"1"	"10"	Set bit 15 to "0"
	"0"	"0001XXX"	"1"	"10"	Set bit 15 to "0"
	"0"	"0000001"	"1"	"10"	Set bit 15 to "0"
Laser optical product Broadcast reception Broadcast reception	"0"	"100XXXX"	"0"	"10"	Set bit 15 to "0"
	"0"	"0111XXX"	"0"	"10"	Set bit 15 to "0"
	"0"	"001XXXX"	"0"	"10"	Set bit 15 to "0"